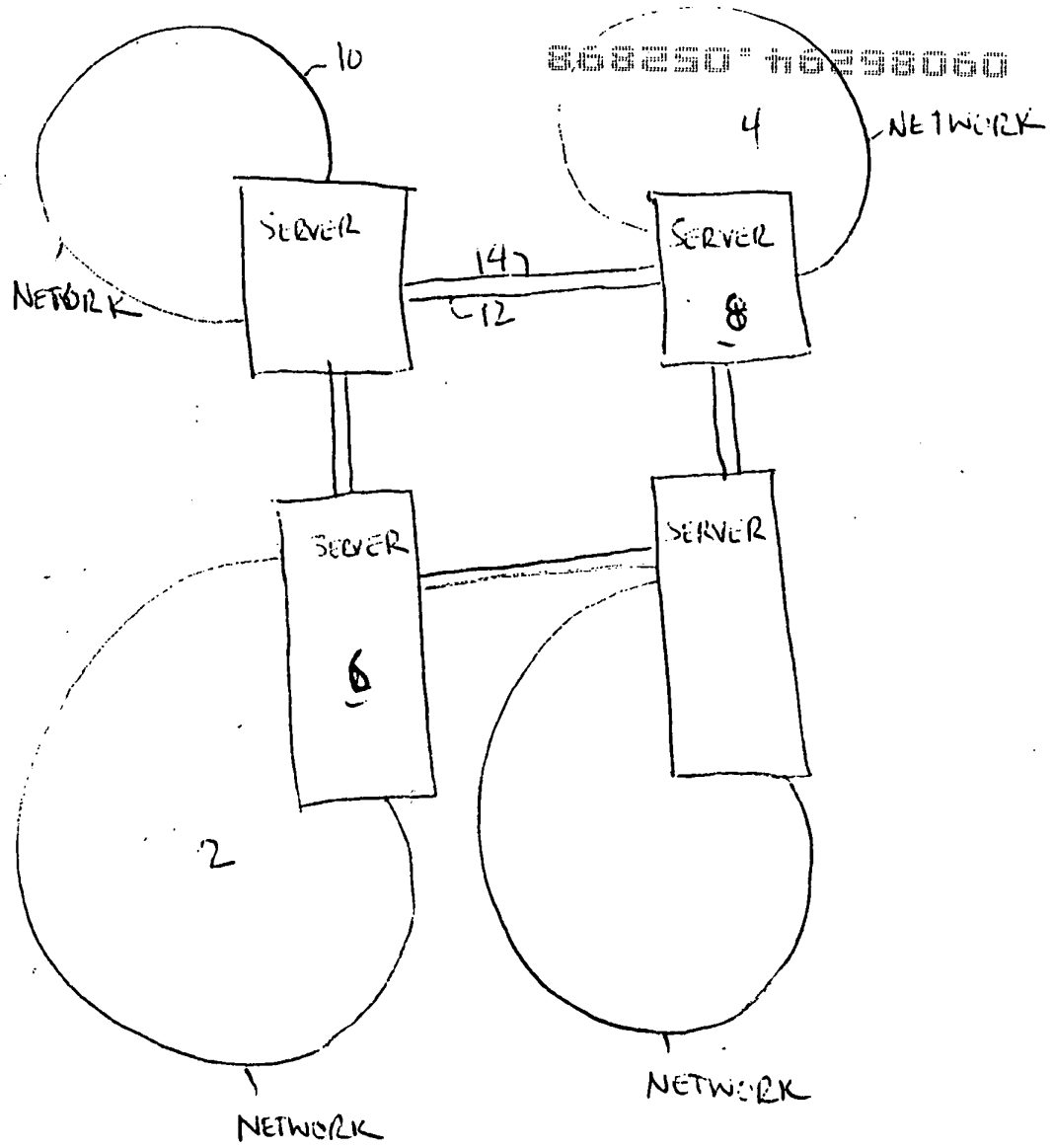
10
SERVER
NETWORK
14
12
SERVER
8
4
NETWORK
SERVER
6
SERVER
2
NETWORK
NETWORK

FIG. 1

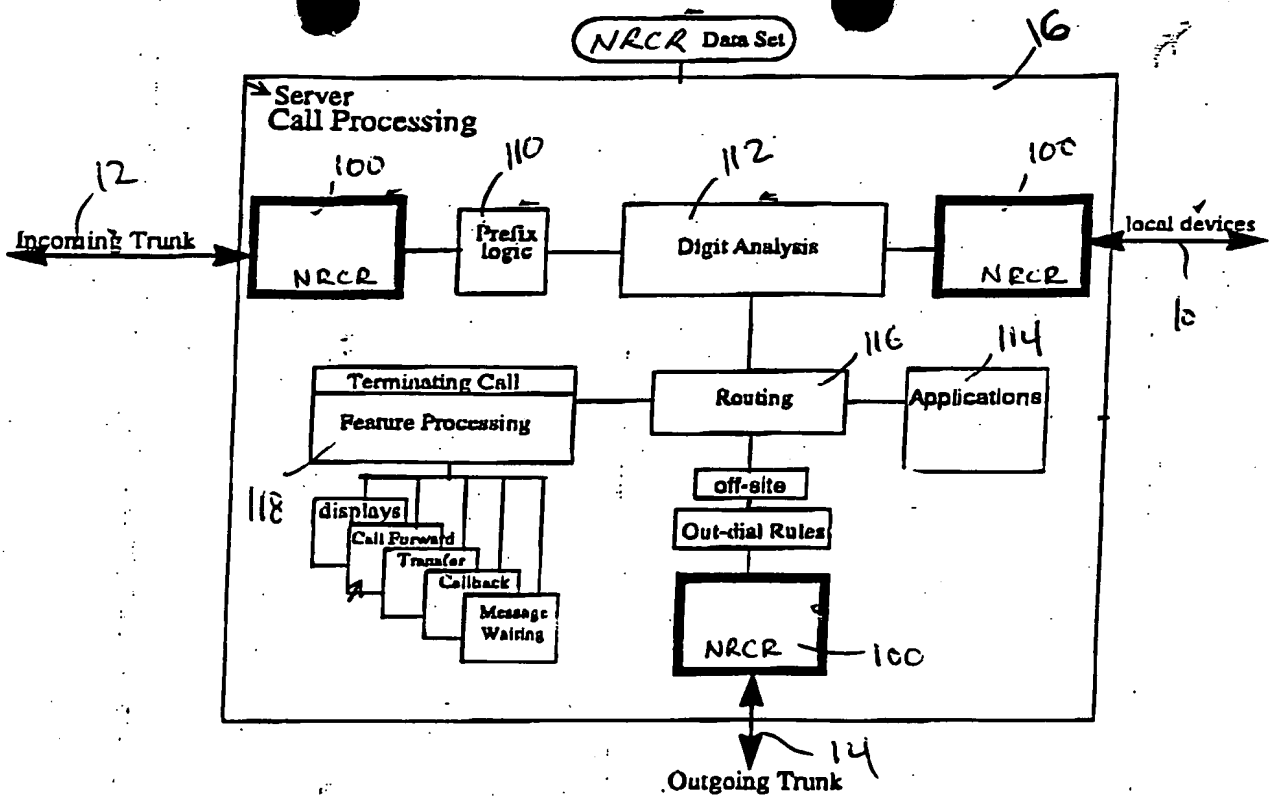
NRCR Data Set
16
Server
Call Processing
12
Incoming Trunk
100
NRCR
110
Prefix logic
112
Digit Analysis
100
NRCR
local devices
Terminating Call
Feature Processing
116
Routing
114
Applications
118
displays
Call Forward
Transfer
Callback
Message Waiting
off-site
Out-dial Rules
NRCR
100
14
Outgoing Trunk

FIG. 2

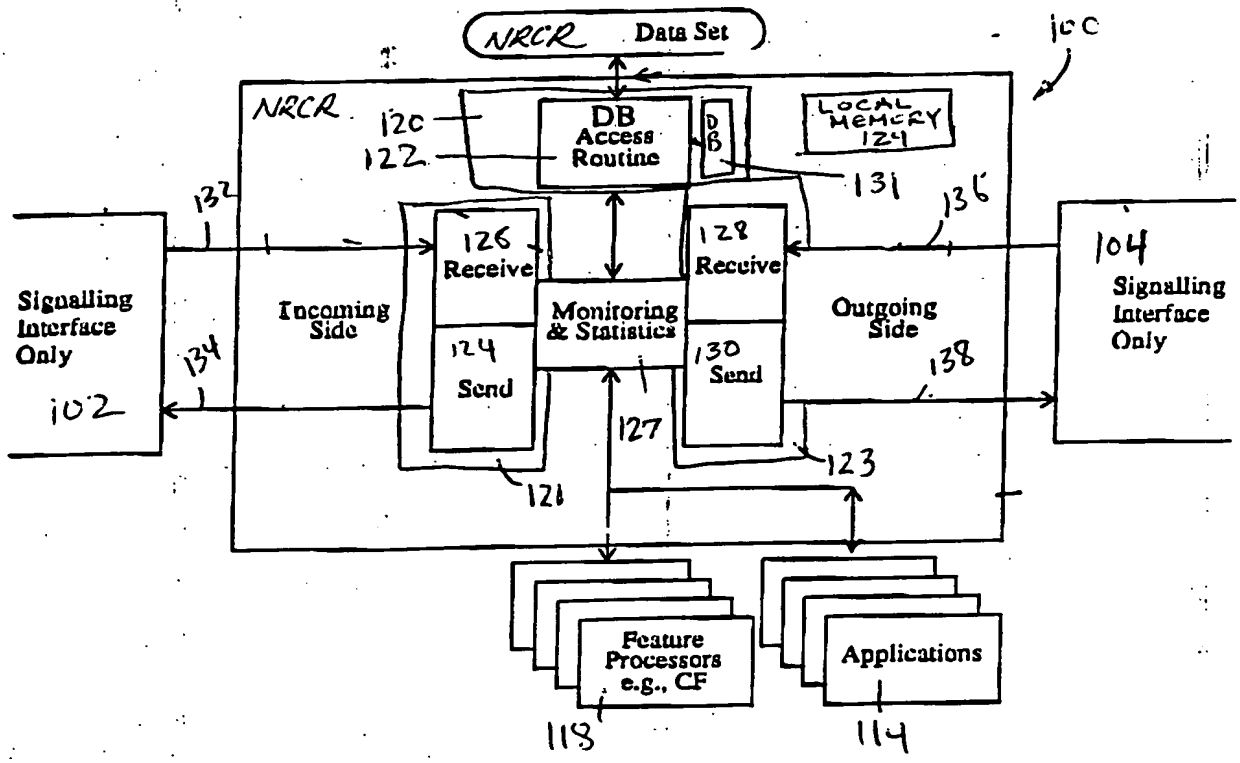
NRCR Data Set
100
NRCR
120
122
DB Access Routine
DB
LOCAL MEMORY 124
131
132
136
126 Receive
128 Receive
Signalling Interface Only
102
Incoming Side
Monitoring & Statistics
Outgoing Side
104
Signalling Interface Only
134
124 Send
130 Send
138
127
123
121
Feature Processors e.g., CF
Applications
118
114

FIG. 3

SERVICE_INDEX_n (e.g., call forwarding, call transfer)
INTERCEPTOR_TYPE (one value only)
REJECT (requestor should redirect)
ACK/ (3rd party to redirect, CONNECTION TO REQUESTOR SUBSEQUENTLY RELEASED)
BLOCK (absorb the request, no response)
SCHEDULE (e.g., bit map time-of-day, day-of-year when/when not to intercept)
RESTRICTIONS (e.g., bit map of exceptions: conditions, users)

FIG. 4

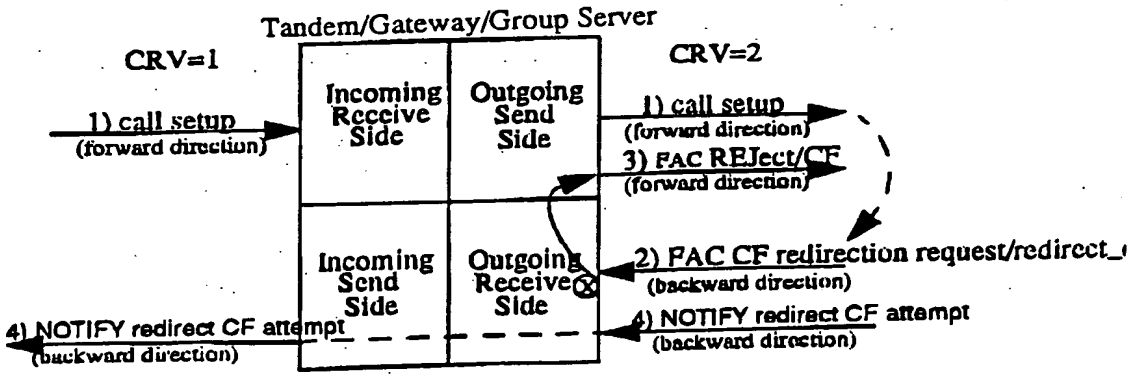
Tandem/Gateway/Group Server
CRV=1
CRV=2
1) call setup
(forward direction)
Incoming Receive Side
Outgoing Send Side
1) call setup
(forward direction)
3) FAC REJect/CF
(forward direction)
Incoming Send Side
Outgoing Receive Side
2) FAC CF redirection request/redirect_
(backward direction)
4) NOTIFY redirect CF attempt
(backward direction)
4) NOTIFY redirect CF attempt
(backward direction)
⊗ NRCR MONITORING

FIG. 5

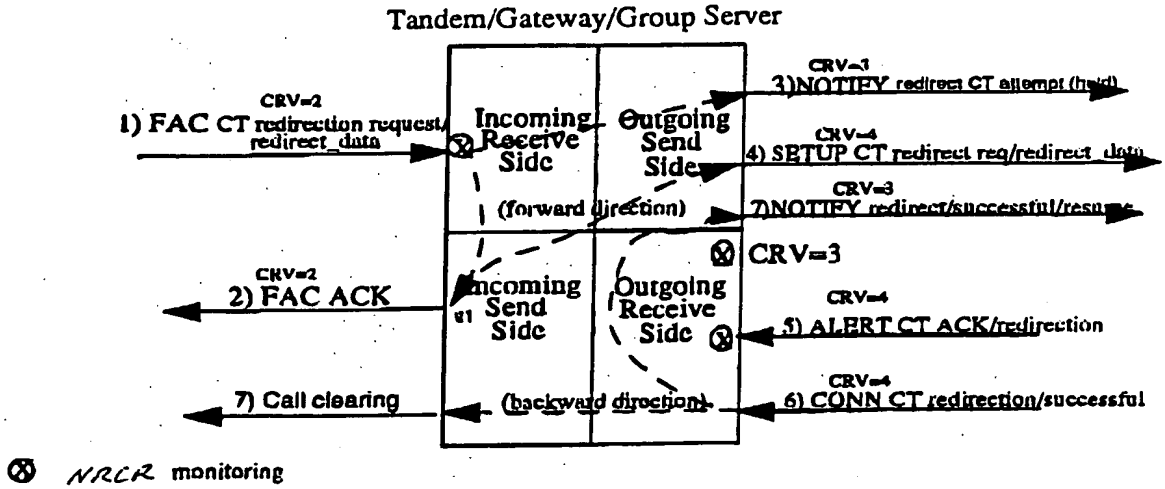
Tandem/Gateway/Group Server
CRV=2
1) FAC CT redirection request/
redirect_data
Incoming Receive Side
Outgoing Send Side
CRV=3
3)NOTIFY redirect CT attempt (hold)
CRV=4
4) SETUP CT redirect req/redirect_data
CRV=3
7)NOTIFY redirect/successful/resume
(forward direction)
CRV=3
CRV=2
2) FAC ACK
Incoming Send Side
Outgoing Receive Side
CRV=4
5) ALERT CT ACK/redirection
7) Call clearing
(backward direction)
CRV=4
6) CONN CT redirection/successful
⊗ NRCR monitoring

FIG. 6

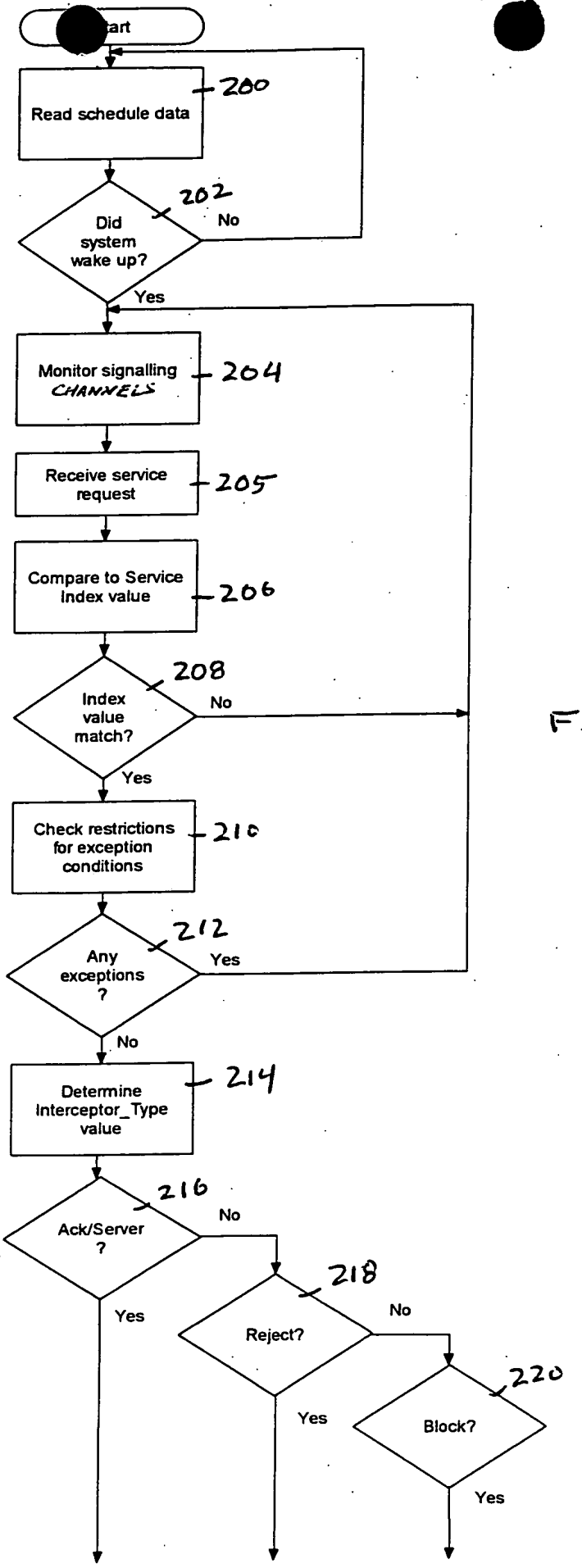
Start
Read schedule data
200
Did system wake up?
202
No
Yes
Monitor signalling CHANNELS
204
Receive service request
205
Compare to Service Index value
206
Index value match?
208
No
Yes
Check restrictions for exception conditions
210
Any exceptions ?
212
Yes
No
Determine Interceptor_Type value
214
Ack/Server ?
216
No
Yes
Reject?
218
No
Yes
Block?
220
Yes

FIG. 7A

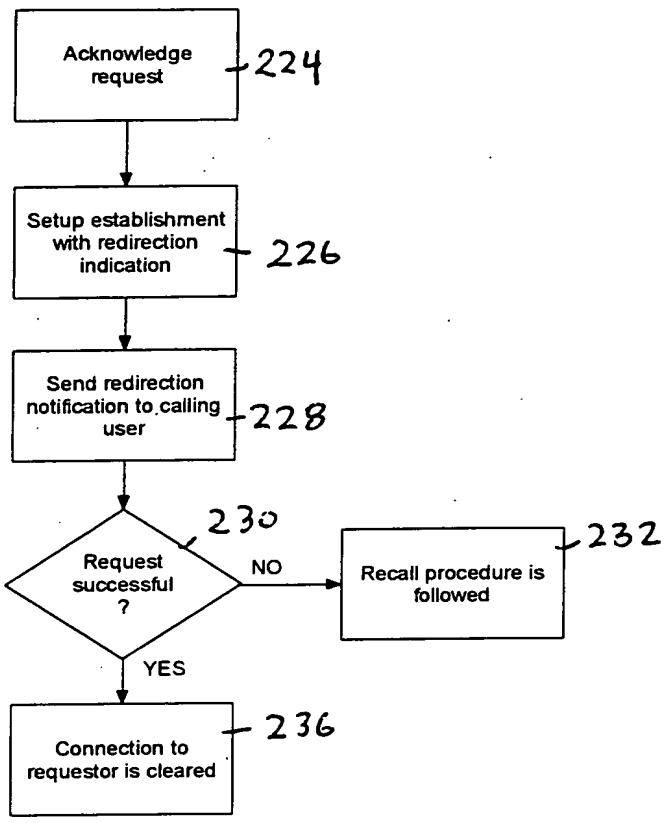
Acknowledge request
224
Setup establishment with redirection indication
226
Send redirection notification to calling user
228
230
Request successful ?
NO
232
Recall procedure is followed
YES
Connection to requestor is cleared
236

FIG. 7B

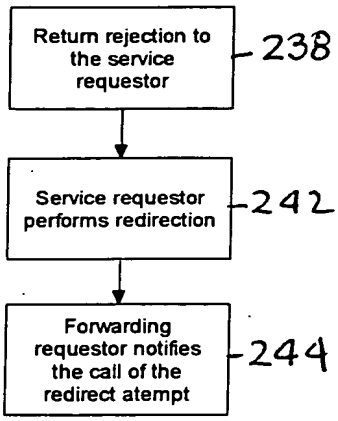
Return rejection to the service requestor
238
Service requestor performs redirection
242
Forwarding requestor notifies the call of the redirect atempt
244

FIG. 7C

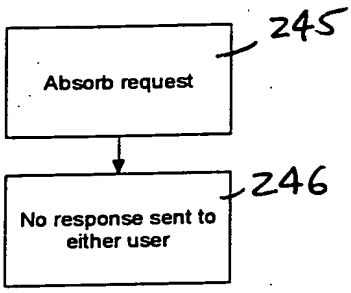

FIG. 7D

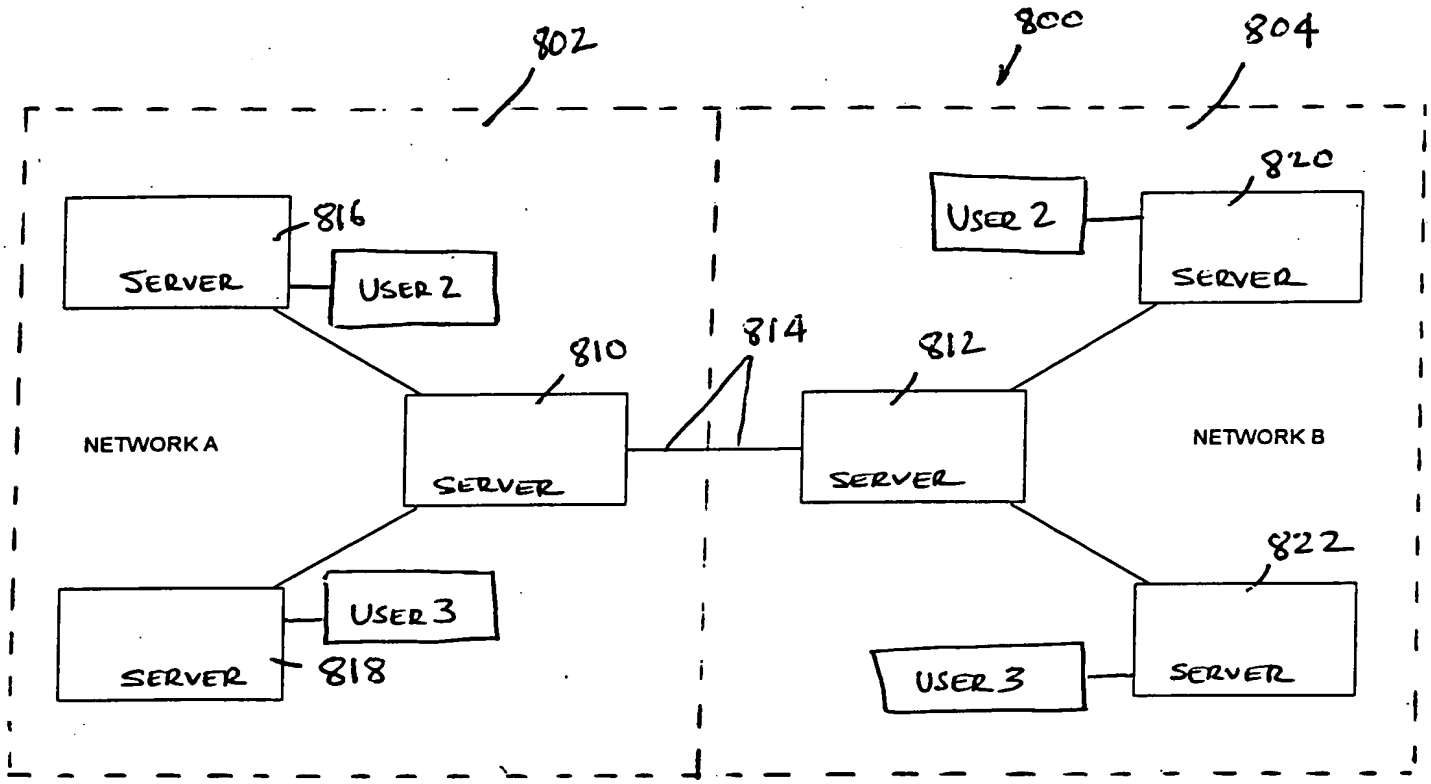
802
800
804
816
SERVER
USER 2
820
USER 2
SERVER
810
814
812
NETWORK A
SERVER
SERVER
NETWORK B
822
USER 3
818
SERVER
USER 3
SERVER

FIG. 8